

## Listing of Claims

### Amendment to the Claims:

The listing of the claims will replace all prior versions, and listings, of claims in the application.

Please amend the claims as follows:

Claims 1 to 13 (canceled).

14. (previously presented) A method of combusting a propellant within a port, comprising the steps of:

flowing a gas stream through the port; and

combusting said propellant and gas, wherein said propellant consists essentially of a mixture of one or more paraffin waxes, and carbon black at a concentration in the range of about 0.2 to 2.0 weight percent.

Claims 15 to 48 (canceled).

49. (Currently Amended) A method of combusting a propellant within a port, comprising the steps of:

flowing an oxidant through the port; and

combusting said propellant and oxidant where

the propellant is comprised of a mixture of one or more paraffin waxes having a mean carbon number in the range of 15 to 80, and[,] under the heat transfer from the oxidant flowing through the port, the propellant forms a liquid layer having a liquid viscosity of less than about 1 milliPa-sec, and a surface tension of less than about 25 milliN/m, and said propellant has an  $a_{onset}$  value, where  $a_{onset}$  is the entrainment onset parameter and said propellant satisfies the following criteria is given by:

$$a_{onset} = 1.05 \times 10^{-2} [\rho_g^{1.3} / \rho_l^{0.3}] [1 / (0.03 C_{Bl})^{0.8}] (1 / \mu_g) \sigma \mu_l^{0.6};$$

where  $\rho_g$  is the average density of the gas stream in the port,  $\rho_l$  is the average density of the propellant in the liquid layer,  $C_{B1}$  is the blowing correction coefficient and is given by:

$$C_{B1} = (2 / 2 + 1.25 B^{0.75})$$

where  $0 < B < 15$ , and  $\mu_g$  is the mean gas viscosity of the gas stream in the port, and  $a_{onset}$  is equal to or less than approximately  $0.9 \text{ kg}^{1.6} / (\text{m}^{2.6} \cdot \text{sec}^{1.6})$ .

Please add the following new claims:

- 50 32. (new) The method of Claim 14 wherein said propellant includes one or more stiffening agents.
- 51 33. (New) The method of claim 14 wherein the mixture of one or more paraffin waxes has an average melting point of 69 °C.
- 52 34. (New) The method of claim 14 wherein the mixture of one or more paraffin waxes has an average melting point of 61 °C.
- 53 35. (New) A method a propelling a propulsion system, the propulsion system having a structure terminating in a nozzle and said structure comprising a propellant within a port, comprising the steps of:
- flowing a gas stream through the port; and
  - combusting said propellant and gas, wherein said propellant consists essentially of a mixture of one or more paraffin waxes, and carbon black at a concentration in the range of about 0.2 to 2.0 weight percent.